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REMARKS

Claims 1 – 37 are pending in the present application. Claims 38 – 41 have been added, and Claims 1, 10, 12, 19, 20, 22, 26, 30, and 35 have been amended, leaving Claims 1 – 41 for consideration upon entry of the present Amendment. The Specification has been amended to correct certain typographical errors, as explained in detail below. Support for the amendments to the claims, as well as the support for its addition to the specification can at least be found in the parent application (U.S. Patent Application No. 09/683,114, e.g., page 8, lines 20 – 23; page 9, lines 7 – 10) that was incorporated into the present application by reference. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims is respectfully requested in view of the above amendments and the following remarks.

Examiner's Comments

Claims 10, 19, 20, 26, 30, and 35 have been amended to address the Examiner's comments, to remove unnecessary limitations, and for consistency of language. These amendments merely further clarify the claims and do no narrow the scope thereof.

Claim Objections

Claim 20 has been amended to remove the extra "and". Reconsideration and withdrawal of this rejection is requested.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 4 – 7, 12, 23 – 26, 33, and 34 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Office Action states that "less than about" is indefinite barring a showing in the specification as to what values around the endpoint are envisioned to be encompassed by the word "about."

As is well settled in the case law, the term "about" is conventionally used in applications. Applicants would like to point, for examples, to the references cited by the Examiner in cases related to the present case (e.g., cases listed in "Cross Reference to Related Cases"): U.S. Patent No. 5,538,774 claims "about 0.02 mm", "a storage modulus of about 6.9×10^4 to about 1.4×10^7

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"Pascals", as well as "at least about 5%..." (Claims 2, 7, and 23, respectively); U.S. Patent No. 6,027,801 claims "about 10 nm..."; and U.S. Patent No. 5,741,403 claims "at least about 90 percent...", "less than about 100 Å Ra", "less than about 1.45", and "less than about 2: Å Ra" (Claims 1, 2, and 3, respectively). As can be seen from this small sampling of U.S. Patents, the language "about", "less than about" and the like, are conventional and are understood by those of ordinary skill in the art. Reconsideration and withdrawal of this rejection are requested.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1, 3 – 20, 22 – 28, and 30 – 36 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,374,462 to Funaki et al. in view of U.S. Patent No. 4,885,339 to Traugott et al. and "Plastics Materials" (7th Ed., pages 584 – 592). Applicants respectfully traverse this rejection.

The present application teaches and claims storage media for data. In one embodiment, the media comprises: a substrate comprising a single phase plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s), and a data layer on the substrate. The data layer can be at least partly read from, written to, or a combination thereof by an energy field. When the energy field contacts the storage media that has a thickness of about 0.8 mm to about 2.5 mm, the energy field is incident upon the data layer before it could be incident upon the substrate. (Claim 1) Meanwhile, in another embodiment, the media comprises: a substrate comprising a single phase plastic resin portion, wherein the plastic resin portion consists essentially of poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s). The media also comprises a data layer on the substrate, where the data layer can be at least partly read from, written to, or a combination thereof by an energy field.

Funaki et al. teach floppy disk technology. (See example 16) They discuss a magnetic recording media having good sliding properties, smoothness, heat resistance, and moisture resistance. They teach a stretch film of a styrene polymer having a high degree of syndiotactic

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configuration. (Abstract) The styrene polymer can be compounded with other resin (e.g., polyphenylene ether) that can be compatibilized with the styrene polymer. (Col. 9, lines 1 – 15) (This is believed to mean that a compatibilizer is used to compound the styrene polymer with the other resin.) This film has an "extremely smooth surface" and a thickness of 2 to 500 micrometers. (Col. 5, lines 47 – 50) As is admitted by the Examiner, Funaki et al. fail to provide motivation to form a single phase blend of PAE and a styrene material.

Traugott et al. teach polyphenylene ether/polystyrene blends and mention some properties thereof. However, Traugott et al. do not discuss storage media or properties thereof. They fail to discuss or suggest a media design, thickness, composition or features.

It is first noted, with respect to "Plastics Materials" cited by the Examiner, that this reference is not dated and does not, therefore, constitute prior art against the present application. The book section provided by the Examiner does not include any data to determine its viability as prior art. Notwithstanding the fact that this reference does not constitute prior art without additional information showing that it was a printed document before the priority date of the present application, this reference merely describes thermoplastics containing phenylene groups and describes some of the properties of polyphenylene ether and polystyrene blends. It does not, however, teach, mention, or suggest anything in relation to storage media, properties thereof, blends useful therefore, etc.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1994).

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In the present case, the media has a substrate comprising a single phase blend, and comprising a thickness of about 0.8 mm to about 2.0 mm or wherein the blend consists essentially of PAE and the styrenic material. Funaki et al. teach a magnetic floppy disk having a thickness of 2 to 500 micrometers and discuss the use of a compatibilizer if the with the type of styrene polymer and polyphenylene ether mentioned. Traugott et al. fail to remedy the deficiencies of Funaki et al. or to provide motivation to modify Funaki et al. have a thickness as claimed in the present application or to have a single phase blend consisting essentially of PAE and a styrene material. Additionally, they fail to teach optical media (e.g., as claimed in Claim 38).

It is further noted that Funaki et al., alone and in combination fail to teach or suggest dependent claims of the present application. For example, a floppy disk as taught in Funaki et al., would not have surface features. Additionally, specific PAE atomic weights and blend compositions are claimed that are not in any way taught or suggested. The amounts claimed in the dependent claims are not mere optimization of a cause effective variable. Applicants have discovered a claim a specific optical media type and substrate composition. None of the prior art of record teach such a media or substrate. As admitted by the Examiner, "Funaki et al. fail[]... [to] render sufficient motivation to selected such a material from the list of possible additives to the polystyrene substrate". (Office Action May 21, 2003, page 6) There is certainly no motivation to choose specific amounts of PAE and styrene material, to choose the molecular weights of PAE, and specific amounts of the PAE that has specific molecular weights. Applicants discovered that the particularly claimed properties and amounts of the PAE, for example, enabled Applicants to attain desired, unique, media. None of the references of record teach or suggest the claimed combination, amounts, or types of materials. The independent claims are non-obvious over the references of record, alone and in combination, and the dependent claims are further non-obvious over the references of record.

Claim 2 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Funaki et al. in view of Traugott et al. and "Plastics Materials", and further in view of Applicants alleged admissions. Applicants respectfully traverse this rejection.

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The Examiner contends that Applicants admitted "that it is old in the art to utilize surface features meeting the claim limitations to facilitate tracking of the read/write device...". (Office Action, Page 10) In the paragraph cited by the Examiner, Applicants state: "A disadvantage of using such substrates is the difficulty of creating pattern... on the surface to facilitate tracking of the read/write device..." Applicants do not teach or suggest that surface features are applicable to floppy disk films, or the like. Applicants merely identify that surface features are a desired feature of a first surface media disk (e.g., a DVD), and that attaining such surface features is a problem in the art. With the media of the present invention, however, surface features are possible.

It is noted, however, that, as stated above, the references of record fail to teach or suggest the presently claimed invention. The deficiencies of these references have not been remedied. Therefore, these references do not render the present claims, including Claim 2, obvious.

Claims 21, 29, and 37 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Funaki et al. in view of Traugott et al. and "Plastics Materials" as applied above, and further in view of U.S. Patent Application No. 2002/0173597 to Zarnoch et al., U.S. Patent No. 4,851,455 to Job et al., and the article titled "Viscosity of Linear Polyesters. An Exact Relationship between Viscosity and Chain Length" by P. Flory (hereinafter "Flory"), and applicant's alleged admissions. Applicants respectfully traverse this rejection.

It is further noted, that these claims depend from allowable independent claims, as set forth above, and are therefore, by definition, allowable. Additionally, these references fail to remedy the deficiencies of Funaki et al., Traugott et al., and "Plastics Materials", and therefore fail to render the present claims obvious.

Zarnoch et al., which is commonly assigned with the present application, is not a proper reference since it was filed after the priority date of the present application. Regardless, however, Zarnoch et al. is relied upon to teach intrinsic viscosity values within applicant's claimed range. This, however, is not relevant since Zarnoch et al. do not teach discuss storage media and do not provide any motivation to choose that particular material from the materials mentioned in Funaki et al. to produce a media as claimed in the present application. Picking and

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choosing teachings from random prior art references, using the present application as a template, does not constitute a *prima facie* case of obviousness. Obviousness must be established at the time of the present application, not from the teaching of the present application. Zarnsch et al. do not teach or suggest modifications to stretch film for floppy disks.

Job et al. are directed to polymer compositions. The Viscosity reference teaches a formula for viscosity of linear polyesters. As with several other of the cited references, however, these references are not directed to storage media, do not discuss using a single phase blend for a substrate in a storage media, do not teach or suggest any media compositions or characteristics, and do not remedy the deficiencies of the cited references.

Obviousness must be established at the time of the invention. It can not be determined in hindsight by picking and choosing information set forth in various references. There must be some motivation set forth in the references to combine the references as suggested by the Examiner to attain the present application as claimed. There is not suggestion, in any of the references to produce a storage media having the claimed thickness, surface features, blend, as well as other characteristics. A mere statement that "it would have been obvious" or that it is merely optimizing when the information is not present in the prior art is insufficient to establish a *prima facie* case. The Applicants have discovered a unique media that simplifies media production, enables the use of surface features, and is more stable and commercially viable. There is no teaching in the prior art, alone or in combination, to suggest the claimed invention. Accordingly, reconsideration and withdrawal of the rejections and allowance of the claims are requested.

New Claims:

Claims 38 and 39 have been added to further claim the invention. Antecedent basis for these claims is found in at least the claims as originally filed.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of all objections, comments, and rejections, and allowance of the case are requested.

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If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862 maintained by Assignee.

Respectfully submitted,

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